

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan



PUBLICATION NUMBER : 10219385  
PUBLICATION DATE : 18-08-98

APPLICATION DATE : 03-02-97  
APPLICATION NUMBER : 09020352

APPLICANT : MITSUBISHI MATERIALS CORP;

INVENTOR : SEKIYA SHINICHI;

INT.CL. : C22C 29/02 B23B 27/14 B23P 15/28 // C22C 1/05

TITLE : CUTTING TOOL MADE OF COMPOSITE CERMET, EXCELLENT IN WEAR RESISTANCE

ABSTRACT : PROBLEM TO BE SOLVED: To provide a cutting tool made of composite cermet, excellent in wear resistance and capable of showing superior machinability over a long period.

SOLUTION: The cutting tool made of composite cermet is constituted of a composite cermet having a structure which is composed, in respect of microstructure, of a spotted phase and a continuous phase of skeleton structure existing among the spotted phases and in which the spotted phases have  $\leq 200\mu\text{m}$  size by measurement by longest diameter and also the amount of the spotted phases of  $40\text{-}200\mu\text{m}$  comprises 10-50 area % of the total amount (the whole) with the continuous phases. Further, the spotted phase is constituted of a titanium carbonitride type cermet having a composition consisting of 5-20wt.% of Co and/or Ni as binding-phase-forming component and the balance essentially, as dispersed-phase-forming component, a Ti type compound carbonitride solid solution of Ti and one or more elements among Nb, Ta, W, Mo, Zr, V, Cr, and Hf. Moreover, the continuous phase is constituted of a cemented carbide having a composition consisting of 5-20wt.% of Co and/or Ni as binding-phase-forming component and the balance essentially tungsten carbide as dispersed-phase-forming component.

COPYRIGHT: (C)1998,JPO